



# Millennium Ecosystem Assessment

## Millennium Ecosystem Assessment Second Technical Design Workshop

**8-11 October 2001, Cape Town, South Africa**

### **Summary**

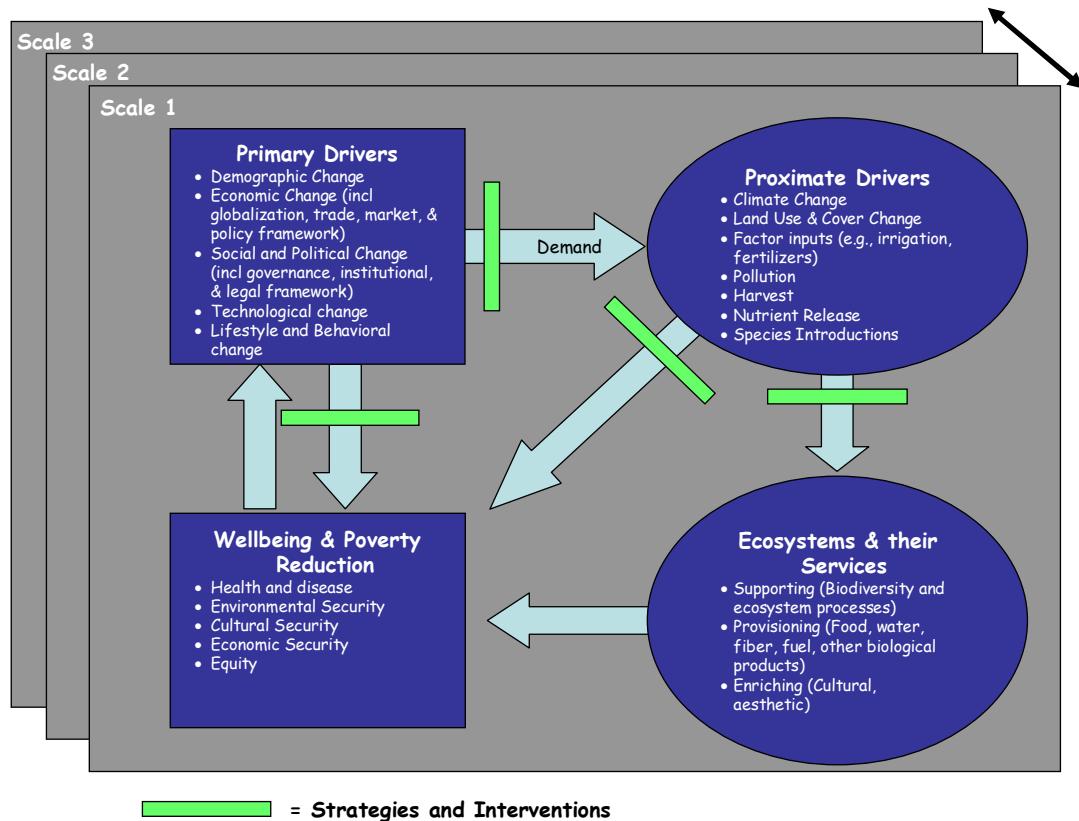
The Second Technical Design Workshop of the Millennium Ecosystem Assessment (MA) was held on 8-11 October 2001 at the Cullinan Cape Town Waterfront, and attended by over 110 participants. Harold Mooney and Angela Cropper, Co-chairs of the MA Panel, chaired the meeting. The workshop built on progress made at the First Technical Design Workshop held in April 2001 at Bilthoven, Netherlands, and on extensive consultation with the various MA user communities since April.

The objectives of the 2<sup>nd</sup> Design workshop were to:

- Refine concept papers and cross-cutting issues
- Develop Working Group final product outlines
- Identify primary data needs for Working Groups
- Identify interim Working Group products and scheduling

Progress was made at the workshop on each of the four working group outlines (Sub-Global Assessments, Condition, Scenarios and Response Options), resulting in the production of draft outlines for final products. Many sections of these outlines were also considerably fleshed out, with relevant introductory and elaborating paragraphs. A range of cross cutting and overarching issues was also discussed, and the MA conceptual framework was finalized (See Figure 1 below.). Alongside discussions on the four working groups, a “remote sensing group” reviewed the availability and development of data sets, and the capacity of remote sensing to meet information requirements of the MA working groups. Potential interim products were discussed and the draft schedule for working group activities was revised. A presentation was also given on the Capacity Building potential for the MA, and working groups were asked to consider how their activities could contribute to capacity building, and how additional activities could be incorporated into working group programmes to contribute to the capacity building goals of the MA.

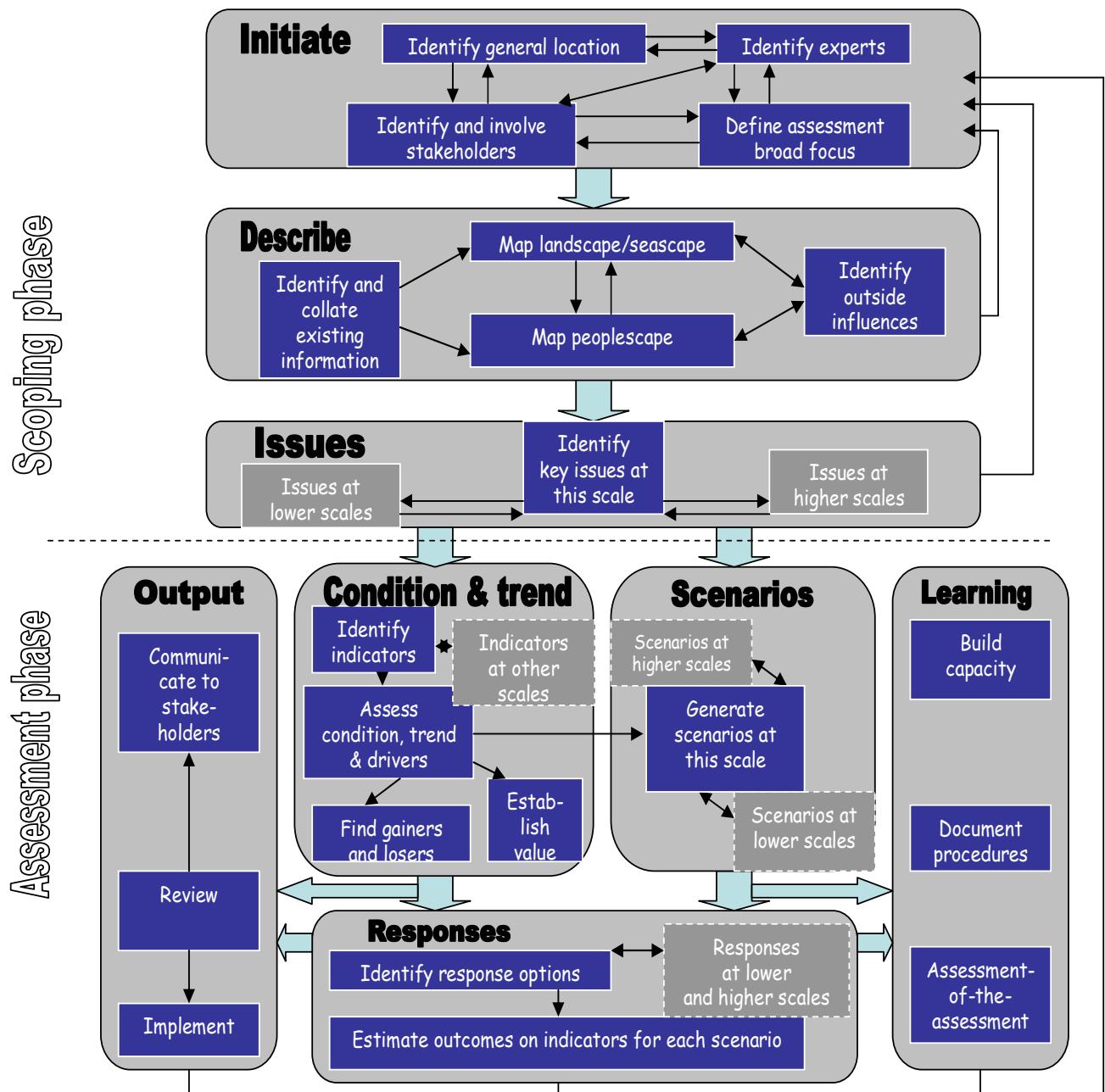
**Figure 1. MA Conceptual Framework**



### Sub-Global Breakout Group

Discussions of the “Sub-Global” breakout group, chaired by Doris Capistrano and Cristian Samper, led to a finalised draft outline for the group, and procedures being developed for the integration of sub-global assessment (SGA) summary reports into the final Working Group product. A standard template for SGA reports was developed, and criteria for the inclusion of SGAs under the MA umbrella were discussed. It was appreciated that there would be a limit to the number of SGAs that could effectively be incorporated into the MA, and that “seed” funding for SGAs was also highly limited. The co-ordination of SGAs within the MA, and opportunities for shared learning and capacity transfer were highlighted. The final Working Group product will present a generic methodology for conducting multi-scale assessments, and summarise the findings from each of the SGAs associated with the MA. These summaries will then be followed by a cross-assessment synthesis of the findings, which will lead to an evaluation of the multi-scale approach, reflecting on the process, and assessing how the approach influenced both the assessment findings and the capacity of institutions and individuals involved in the SGAs. The basic flowchart for the multiscale methodology, which would apply at the global as well as the sub-global scales, is shown in Figure 2.

**Figure 2. Multiscale Assessment Flowchart**



**Condition Breakout Group**

The “Condition” breakout group, chaired by Rashid Hassan and Ian Noble, finalised a draft four-part outline for the final product, and decided upon the focus of the chapters within the outline. The outline was also fleshed out considerably during the workshop. After an

introduction to the approach of the Condition Working Group, the final product will then describe each major ecosystem good and service (G&S) (*see below for discussions on Ecosystem Goods and Services*) under a consistent set of headings. The condition and geographical distribution and trends of the supply and demand for each G&S will be presented, and the capacity of ecosystems to supply these G&S, and the impacts of the changes in ecosystems on their provision will be described. The third section of the product will describe the current extent, condition and trends of ecosystems, presented biome by biome, and options for trade-offs between the provision of the various G&S will be described. A number of synthetic chapters will then address issues such as species use of multiple ecosystem types; areas with multiple examples of rapid change; land conversions, and Protected Areas. The final section of the product will aim to assess the impacts of ecosystem change on human wellbeing, covering indicators of health, environmental security, cultural security, economic security and equity.

<b>Scenarios Breakout Group</b>	The “Scenarios” breakout group, chaired by Steve Carpenter and Prabhu Pingali, also developed a draft outline for the final product, which will lead the reader through a summary of current conditions of ecosystems and driving forces and then present the storylines of the various scenarios, and then describe (quantitatively) the impact on the proximate forces, ecosystem goods and services, and where possible human well-being. It was decided that there would be three or four main scenarios developed, each dealing with possible futures of primary drivers, proximate drivers and ecosystem services, and then examining the implications of the possible futures for human well being. A synthesis section will relate the work of the Scenarios Working Group to the other Working Groups, and assess the implications of the scenarios for targeted MA user groups. The state of models for predicting ecosystem will also be evaluated, and further discussion will be required to decide how uncertain (infrequent, high impact) events will be incorporated. A range of interim working group products were discussed, to include publications on the status of models for projecting ecosystem services (2002), on technology (2002) and agricultural (2002) futures, and case studies at the subglobal scale (2002-2004).
<b>Response Options Breakout Group</b>	Discussions in the “Response Options” breakout group, chaired by Kanchan Chopra and Rik Leemans, led to finalising the conceptual framework for evaluating response options and the production of a draft outline for the final product. The three-part final product aims to introduce the reader to the conceptual framework of the working group and the typology of response options within categories of disciplinary tradition, social control, drivers and scale. This will be followed by an assessment of past and current response options, which will provide the basis for practical recommendations, tools and guidelines for the various users through an evaluation of existing literature and the MA subglobal assessments. The final section of the product will provide a synthesis of the “ingredients for successful responses”, based on an evaluation of available policies and scenarios. A white paper on methods for evaluating policy was proposed by the breakout group.

## **Remote Sensing Breakout Group**

An ad hoc group chaired by Jean-Paul Malingreau was established to discuss the use of remotely sensed data in the MA. The group met concurrently with the four main breakout groups for part of the meeting and members joined the other breakout groups for part of the meeting to identify needs for remote sensing input. The group discussed the availability and quality of remotely sensed information that may be available to the MA, although the Working Group outlines did in many cases not develop sufficient detail for the remote sensing information needs to be determined specifically. A number of data sets in development were also reviewed to assess their suitability and the timeliness of their availability to the MA. The group met with members of the Condition working group to identify a ‘short list’ of core remote sensed data needs for the Assessment. In addition, an effort will be made to develop a product identifying areas of rapid land cover change that could be an input to the MA. A separate report will be made available covering the specific proposals developed by the remote sensing group, and containing the details of various datasets.

## **Cross- cutting Issues**

Over the four days of the workshop a number of cross-cutting breakout groups were established to discuss overarching issues of relevance to each of the working groups. Each cross-cutting breakout group then reported back to the plenary, where further comments were raised and decisions reviewed and refined as appropriate. Such groups covered:

- MA conceptual framework,
- Units of assessment and reporting,
- Definitions of Goods and Services
- MA and human well being
- Peer review process

Significant progress on the MA conceptual framework, and a final ‘working’ version was endorsed by the plenary and is shown in Figure 1. This version more explicitly demonstrates the focus of the MA on ecosystem services and human well being and shows the multiscale nature of the MA.

Units of assessment and reporting for the MA were discussed at a breakout group on the third day of the workshop. The group agreed that there would need to be considerable flexibility in the units of assessment, and that geographic data on drivers, ecosystems and ecosystem services would best be represented on nested grids, as proposed in the paper on “Geographic Units of Analysis and Reporting” that was provided as background information to the workshop. It was further decided that actual, rather than potential, land cover would be required for the analysis. The incorporation of non-spatial data sets was discussed, many of which originate from social scientific disciplines, and the analysis of trend data was discussed. Following on from discussions in the “Condition” breakout group, it was agreed that a range of reporting units would be required. A biome approach was recommended to combine with aggregated continental regions for basic geographic units of reporting. It was

also proposed that information be reported on areas of rapid change, and relevant units for specific target audiences, for example on dryland categories for the Desertification Convention and wetland types for Ramsar. It was decided to expand the current paper on “Geographic Units of Analysis and Reporting” to include further data types (especially non-spatial and temporal data), to further consider units of reporting, and to focus on translating between input, analysis and reporting units.

The “Goods and Services” breakout group met on several occasions to review the list of major goods and services, and to produce a definition of “Ecosystem Services”, which was adopted: *“Ecosystem services are the conditions and processes supported by biodiversity through which ecosystems sustain and fulfil human life, including the provision of goods.”* In addition, it was decided to explicitly state alongside this definition that the MA is concerned not just with the “services” of ecosystems but also with the intrinsic value of ecosystems and biodiversity and with the consequences of ecosystem change for human wellbeing. Whilst it was agreed that the above definition would form a useful definition for the purposes of the work programme of the MA, it was noted that there may need to be “translations” of this definition for communication with a wider audience. Examples of such translations were suggested. Ecosystem services were grouped into categories of “provisioning” services, “supporting” services and “enriching” services, although it was recognised that these categories are very much interlinked, and that some of this terminology may need further review. The refined list of Goods and Services was accepted at plenary as a suitable basis for the outlines of the four MA Working Groups.

The focus of the MA on consequences of ecosystem change on human well being was reaffirmed during a breakout session on the subject. The concept of constituents and determinants of well being were discussed, and a draft list of well being impact indicators was developed. This list was also accepted at plenary as a suitable basis from which the four MA working groups could proceed.

The MA peer review process was considered at both plenary and in the “Subglobal assessments” breakout group. The integration of peer review procedures at the global and subglobal levels was discussed and the process of incorporation of traditional knowledge and remotely sensed data into the peer review procedure was developed. A “graded” 3-stage review process was proposed, and it was agreed that the available document on *“Procedures for the preparation, review, approval and publication of Millennium Assessment reports”* would be updated to reflect discussions held at the workshop.

Other issues discussed at either plenary or in the main breakout groups included author selection for the Working Group products. The nomination process was outlined and it was agreed that there should be a considerable effort to ensure that the process is as widely encompassing as possible. In particular, considerable effort must be made to ensure gender, discipline and geographic balances in the list of MA lead authors. The MA core synthesis

questions were also reviewed, reorganised into a nested set that more corresponded to the four Working Group outlines, and this list affirmed at plenary.

Next steps in for the MA were discussed, and it was agreed that each of the four Working Group outlines will be refined and integrated by the MA Panel in preparation for review and approval along with the budget and schedules by the MA Board in January 2002. The workshop adjourned with a summary from the MA Panel Co-chairs, and an appreciation to the many individuals who had helped with the organisation and smooth running of the workshop.

Further documentation from the Second Technical Design Workshop for the Millennium Ecosystem Assessment, and information on resulting follow-up activities will be posted on the MA website ([www.millenniumassessment.org](http://www.millenniumassessment.org)).

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**MA Sponsors<sup>1</sup>**

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